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Example.—Find the present value of an annuity of £1 for 5 years, increasing £1 annually, at 5 per cent.

$$\text{Here } a=1, c=1, n=5, i=.05, P=p+\frac{p(ni+1)-n}{i}.$$

$$\begin{array}{rcl} \text{(Jones, vol. i.) } p= & 4.329477 & \\ & 1.082369 & \\ \hline & 5.411846 & \end{array}$$

$$n=5 \quad 5.411846=p(ni+1)=p(1.25)$$

$$i=.05 \quad \begin{array}{r} .411846 \\ \hline \end{array}$$

$$\begin{array}{r} 8.23692 \\ \hline 4.32947 \\ \hline \end{array}$$

$$12.56639 = \text{Total present value of the increasing annuity.}$$

To check this result, we find the present value of the whole annuity by summing the present values of each distinct payment; and we have—

Years hence.	Present Value of £1.	Amount of Payment.	Present Value.
1 =	.952381	× 1 =	.95238
2 =	.907029	× 2 =	1.81406
3 =	.863838	× 3 =	2.59151
4 =	.822702	× 4 =	3.29081
5 =	.783526	× 5 =	3.91763

$$\text{Total present value, as before} = 12.56639$$

which proves the correctness of the formula obtained.

FOREIGN INTELLIGENCE.

DENMARK.—*Statistics of the Royal Octroied Fire Insurance Company, at Copenhagen (Kyl Octroierede Assurance Company for Varer og Effecter).*—This Company, established on the 11th May, 1778, and remodelled on the 24th May, 1843, has a privilege for insuring goods, furniture, and all moveable property, at Copenhagen, so that neither the formation of another Danish Society nor the agency of a foreign Insurance Company is permitted; nevertheless, some English and German Societies have agents at Copenhagen, and do a large amount of business. A fine of 1,000 rix dollars* (£111 sterling) which must be paid by the insured to the Royal Fire Insurance Company, in case he is found to have insured with another Office, has only the effect that this fine is very often insured with the other property; and no inquiry being allowed about the insurance, except in case of fire, the fine can only then be levied.

The original capital amounted to £66,666 sterling, in 500 shares of £56, wholly paid up; but in 1843 it was provided that the reserved fund accumulated at that period, of £4,444, should be added to the original

* 9 Rix dollars = £1.

capital, thus raising it to £111,111, and the value of each share to £92. 10s. Since that time, a new reserved fund of £22,920 has been accumulated.

The interest paid to the shareholders is 4 per cent., which originally was paid only on £66,666; but since 1843, on £111,111.

A review of the Society's business is annexed.

Year.	BUSINESS EXPRESSED IN POUNDS STERLING.					PROPORTIONAL REVIEW.				
	Sums Insured.	Amount of Premiums.	Claims Paid.	Dividend, including Interest.	Dividend, including Interest, each Share.	Average Premium per Cent. on Sums insured.	Claims per Cent. on Sums insured.	Claims per Cent. on Premiums.	Dividend, including Interest per Cent. on Sums insured.	Dividend, including Interest per Cent. on Premiums.
	£	£	£	£	£					
1815	1,694,444	9,006	301	5,333	4 $\frac{1}{8}$	0.53	00.018	3.3	0.31	59
1816	2,000,000	13,096	1,348	9,333	7 $\frac{1}{8}$	0.66	0.067	10.2	0.47	71
1817	1,925,925	14,459	281	10,666	8 $\frac{1}{8}$	0.74	0.014	1.9	0.55	74
1818	1,814,814	12,933	1,696	9,333	7 $\frac{1}{8}$	0.71	0.093	13.1	0.52	72
1819	1,222,222	7,995	4,773	9,333	7 $\frac{1}{8}$	0.65	0.391	59.7	0.76	116
1820	1,111,111	7,149	248	9,333	7 $\frac{1}{8}$	0.64	0.022	3.4	0.84	131
1821	944,444	5,974	32	8,933	7 $\frac{1}{8}$	0.63	0.003	0.5	0.95	150
1822	888,888	5,448	0	8,266	6 $\frac{1}{8}$	0.61	0.000	0.0	0.93	152
1823	833,333	5,269	0	8,266	6 $\frac{1}{8}$	0.63	0.000	0.0	0.99	157
1824	750,000	5,208	12	9,333	7 $\frac{1}{8}$	0.69	0.001	0.2	1.24	179
1825	861,111	5,029	172	8,933	7 $\frac{1}{8}$	0.58	0.020	3.5	1.04	179
1826	1,000,000	5,798	567	9,066	7 $\frac{1}{8}$	0.58	0.057	9.7	0.91	156
1827	1,000,000	5,734	527	8,933	7 $\frac{1}{8}$	0.57	0.053	9.2	0.89	156
1828	1,055,555	5,944	658	8,800	7 $\frac{1}{8}$	0.56	0.062	1.1	0.83	148
1829	1,055,555	6,005	165	8,800	7 $\frac{1}{8}$	0.57	0.016	2.8	0.83	147
1830	1,111,111	5,718	310	8,800	7 $\frac{1}{8}$	0.51	0.028	5.5	0.79	154
1831	1,148,148	5,374	918	8,133	6 $\frac{1}{8}$	0.47	0.083	17.1	0.70	151
1832	1,222,222	5,506	23	8,800	7 $\frac{1}{8}$	0.45	0.002	0.4	0.72	160
1833	1,305,555	5,860	361	9,066	7 $\frac{1}{8}$	0.45	0.028	6.2	0.69	155
1834	1,277,777	5,681	123	9,066	7 $\frac{1}{8}$	0.44	0.009	2.1	0.71	160
1835	1,333,333	5,876	378	9,066	7 $\frac{1}{8}$	0.44	0.028	6.4	0.68	155
1836	1,355,555	6,128	956	9,066	7 $\frac{1}{8}$	0.45	0.071	15.6	0.67	148
1837	1,622,222	7,316	3,456	9,066	7 $\frac{1}{8}$	0.45	0.213	47.2	0.56	124
1838	1,555,555	7,148	271	9,066	7 $\frac{1}{8}$	0.46	0.017	3.8	0.58	127
1839	1,740,740	7,361	4,391	9,066	7 $\frac{1}{8}$	0.42	0.252	59.7	0.52	123
1840	1,638,888	6,975	1,144	9,066	7 $\frac{1}{8}$	0.43	0.070	16.4	0.55	130
1841	1,666,666	6,645	306	9,066	7 $\frac{1}{8}$	0.40	0.018	4.6	0.54	136
1842	2,148,148	6,774	126	10,400	8 $\frac{1}{8}$	0.32	0.016	1.2	0.48	154
1843	2,250,000	7,191	1,414	6,000	5—	0.32	0.063	19.7	0.26	83
1844	2,444,444	8,231	16,874	8,000	6 $\frac{1}{8}$	0.34	0.690	205.0	0.33	97
1845	2,666,666	8,709	1,707	8,533	7 $\frac{1}{8}$	0.33	0.064	19.6	0.32	98
1846	2,833,333	9,261	4,738	8,000	6 $\frac{1}{8}$	0.32	0.167	51.2	0.28	86
1847	3,000,000	9,899	2,981	8,533	7 $\frac{1}{8}$	0.33	0.099	30.1	0.28	86
1848	2,972,222	9,863	1,628	8,000	6 $\frac{1}{8}$	0.33	0.055	16.5	0.27	81
1849	3,027,777	9,926	7,714	5,333	4 $\frac{1}{8}$	0.33	0.255	77.7	0.17	44
1850	3,259,259	10,535	7,188	5,866	4 $\frac{1}{8}$	0.32	0.221	68.2	0.18	56
1851	3,333,333	11,101	6,991	8,000	6 $\frac{1}{8}$	0.33	0.210	63.0	0.24	72
1852	3,555,555	11,775	3,161	9,066	7 $\frac{1}{8}$	0.33	0.089	26.7	0.25	77
Total.	66,625,911	293,900	77,939	325,719	271 $\frac{1}{8}$	0.44	0.117	26.6	0.49	111

The expenses of management have been £1,111 to £1,333 per year; thus varying from 10 to 25 per cent. of the amount of premiums—a rather high proportion.

Examining this table, it is obvious that the average premium, which

rose in 1817 to 0·74 per cent., has fallen since then every year. Since the year 1825, the competition has regularly increased, and there seems to be a remarkable connection between average premium and sum insured. As long as the premiums of this Company have remained higher than those of foreign Companies acting in Copenhagen, the sum insured remains small, and diminishes from year to year. Even a reduction of premiums, which in their reduced state still exceed those of other Companies, does not cause a change. But when in 1825 the average premium is reduced from 0·69 to 0·58 per cent., the sum insured begins to rise, and regularly rises while the average premium falls; and in 1842, when a *considerable* reduction of the average premium took place, the sum insured increased more than in any other year.

The claims paid differ from 0·0 to 0·69 per cent. of sums insured, and only once exceed the amount of premiums in 1844, the year of their maximum.

The dividends paid are very considerable, and exceed the amount of premiums by nearly £33,333. Thus the interest taken would have been sufficient not only for all claims and expenditure of management, but also for the accumulation of a reserved fund of £100,000, which gives an average income of £5,555 per year.

The interest to the shareholders is fixed at 4 per cent., giving till 1843 £2½ per share, and since then, £4⅓ per share. Since 1815, this amounts to £91½ per share. The shareholders have received £271⅓, which produces an actual profit of £180; or, if we consider the augmentation of interest in 1843 as a profit, and the increased value of shares now really amounting to £111, each share of £66⅔ has gained since 1815, besides the interest of 4 per cent., £242⅓, or 363 per cent.—making £6½, or 9½ per cent., each year.

GERMANY.—*Gotha Mutual Life Assurance Bank*.—Extract from the report for 1853.

I.—Assurances.

Proposals:—

	Persons.	Amount.
Proposals made in the course of 1853	1,804	£368,128*
Standing over from 1852	44	11,186
	<hr/> 1,848	<hr/> £379,314

The accepted of these proposals were—

	Persons.	Amount.		
Of persons who were not yet assured	1,324	£268,471		
Of persons who were already assured	233	39,229		
	<hr/> 1,557	<hr/>	1,557	£307,700
Refused or reduced by the Society	235	55,871		
Withdrawn, not completed, or reduced by the parties	18	7,786		
Standing over for consideration at the end of the year	38	7,957		
	<hr/> 1,848	<hr/>	1,848	£379,314

Amount of assurances:—

At the beginning of the year	17,715	£4,004,057
New assurances during the year	1,324	307,700
	<hr/> 19,039	<hr/> 4,311,757

7 Thalers = £1.

Foreign Intelligence.

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		Persons.	Amount.
Brought forward		19,039	£4,311,757
Cancelled—	Persons.		Amount.
By death	399		£92,614
By surrender, running off, &c. 213			59,829
		612	152,443
In force at the end of the year		18,427	4,159,314
The clear increase was therefore 712 persons, with £155,257.			

Classes of assurances :—

Whole life—	Persons.	Sums assured.	Yearly premium.
Payable at death, or on attaining the 90th year of age	18,023	£4,063,842	£142,225
Payable at death, or at any younger age than the 90th year	150	34,743	2,048
	18,173	4,098,585	144,273
Survivorships	51	11,000	339
For terms of years	203	49,729	989
	18,427	£4,159,314	£145,601
According to the sex of assured—			
Males	17,256	£3,928,400	
Females	1,171	230,914	
	18,427	£4,159,314	

According to the ages of the assured and the amount of assurances :—

AGE.	Amount of Assurances.										TOTAL.	
	£28½—£142½.	£157—£385.	£300—£428.	£443—£570.	£586—£714.	£728—£857.	£871—£1,000.	£1,014—£1,143.	£1,157—£1,286.	£1,300—£1,429.		
	Number of Persons.										Persons.	Sums Assured.
19—20	7	..	..	..	..	..	..	..	..	..	7	£. 629
21—25	70	11	1	1	1	1	..	..	..	..	85	11,471
26—30	442	107	16	12	13	7	..	..	..	2	599	101,686
31—35	1,118	300	102	55	49	19	2	1	2	22	1,670	348,014
36—40	1,546	438	149	82	68	30	4	10	2	28	2,357	507,457
41—45	1,878	594	217	87	86	39	8	19	1	33	2,962	652,171
46—50	1,944	684	207	136	76	57	6	20	1	33	3,164	709,228
51—55	1,690	659	220	138	84	49	16	32	2	29	2,919	698,571
56—60	1,225	480	169	92	54	34	6	16	5	23	2,104	491,729
61—65	763	281	99	85	54	37	6	12	4	16	1,357	348,072
66—70	421	161	60	46	21	20	8	12	..	2	751	178,843
71—75	179	73	19	11	10	9	2	7	1	..	311	75,900
76—84	92	27	10	10	2	..	..	..	..	..	141	26,543
Total..	11,375 persons, £1,169,800.	3,815 persons, £938,357.	1,269 persons, £513,057.	755 persons, £420,500.	518 persons, £365,929.	302 persons, £257,571.	58 persons, £57,043.	129 persons, £146,357.	18 persons, £22,200.	188 persons, £268,500.	18,427	4,159,314

The average age of the assured was, at the beginning of the year, 48 years 2 months; and at the end of the year, 48 years 3 months. The average amount of the sum assured on each life was at the beginning of the year £226, and at the end £225. 14s. 3d.

Deaths:—

Age.	Assured in the course of 1853.	Should die, according to the Tables used.	Died.	Plus.	Minus.	Mortality per cent.
15—25	100	0·65	..	..	0·65	..
26—30	636	5·24	5	..	0·24	0·79
31—35	1,702	16·97	11	..	5·97	0·65
36—40	2,417	27·24	20	..	7·24	0·83
41—45	3,018	36·92	35	..	1·92	1·16
46—50	3,245	49·59	50	0·41	..	1·54
51—55	3,012	59·60	55	..	4·60	1·83
56—60	2,179	55·59	60	4·41	..	2·75
61—65	1,423	46·67	63	16·33	..	4·43
66—70	809	36·34	54	17·66	..	6·67
71—75	338	24·25	27	2·75	..	7·99
76—84	160	23·01	19	..	4·01	11·87
Total..	19,039	382·07	399	41·56	24·63	

Of the 399 persons, on whose life the total sum of £92,614 was assured, only 389 (for £90,229) were entitled to full payment. Six assured (for £1,671), who had died by suicide, left to their representatives no claim to the sum assured, but only to a return out of reserved fund. This return was, in four cases of suicide which were "*non compos mentis*," the full value of the policies; in the other two cases of intentional suicide, the usual purchase price. Two others (assured for £571), who had shortened their lives by intoxication, left only a similar claim. A third case of the same sort (£100) is still under examination. In another case (the first of the kind since the establishment of the Society), the claim (£43) was forfeited because the assured died by capital punishment, for having murdered his wife. The amount paid to his representatives was only the usual purchase price of the policy.

The proportion of deaths was 361 males and 38 females. In the course of 1853, 17,813 males and 1,226 females being assured, the rate of mortality of the former was 2·03 per cent., of the latter 3·10 per cent. The mean age of the males and of the females was about the same; the latter showed, as usual, a much higher mortality than the former.

An accurate table in the appendix of the report shows, in the case of every death, the age of the assured at the date of the assurance, the age at his death, and the cause of the death. There died 60 by apoplexy, 54 by consumption (phthisis), 46 by nervous fever, 31 by dropsy, 22 by marasmus senilis, 15 by cholera Asiatica, 6 by suicide, &c.

II.—*Cash account for the year 1853.*

<i>Dr.</i>	£.
Invested capital at the end of 1852	986,619
Amount of new premiums for 1853	10,375
" renewal premiums for 1853	136,424
" premiums paid in advance	6
" commuted premiums and extra premiums	1,036
Interest on loans	39,052
Dividends unclaimed	220
Profit fromagio on money, existing bonds, bills of exchange, &c.	164
House rent, deducting all charges	94
Extra receipts for deposits, &c.	530
Total	£1,174,530
<i>Cr.</i>	£.
Paid 1 claim for the year 1849	86
" 1 " " 1851	186
" 53 claims " 1852	14,528
" 325 " " 1853	75,228
" 3 claims fallen due in lifetime	1,214
Dividends to the assured for the year 1847 (residue)	603
Dividends to the assured for the year 1848	28,610
For policies purchased	2,760
Agents' commission	3,268
Expenses of management	4,129
Extraordinary expenses	139
Invested capital at the end of 1853	1,043,779
Total	£1,174,530

III.—*Balance-sheet for the year 1853.*

<i>Dr.</i>	£.
68 claims unsettled	15,814
Unclaimed dividends for year 1848	499
Deposits received in cash	4,861
Reserve, or the value of all existing policies at the 31st Dec., 1853, without any regard to the premiums or parts of premiums paid since this date	776,905
Gross amount of premiums in advance for the time after the 31st December, 1853 (<i>Prämien übertrag</i>)	69,804
Surplus (guarantee fund)—	
Surplus of 1849-52	£136,786
Surplus of 1853	39,110
Total	£1,043,779
<i>Cr.</i>	£.
Cash in hand	8,593
Mortgages	961,244
Advances on policies	35,594
Interest due	9,876
Value of the Society's house	4,787
Balances due by agents	13,268
Balances at bankers	10,417
Total	£1,043,779

In order to show that the above-mentioned reserve covers the risk, the following extract from the tables of reserve, computed on the list of mortality at 3 per cent., is published.

Age of entrance.	RESERVE FOR A WHOLE LIFE POLICY OF 100 AFTER YEARS.													
	5.	10.	15.	20.	25.	30.	35.	40.	45.	50.	55.	60.	65.	70.
21	4,972	10,019	15,413	21,320	28,212	35,559	43,135	51,117	59,721	68,881	77,729	84,677	90,051	100,000
26	5,311	10,988	17,204	24,457	32,187	40,160	48,560	57,614	67,253	76,563	83,875	89,530	100,000	
31	5,995	12,560	20,220	28,384	36,804	45,675	55,237	65,417	75,248	82,971	88,942	100,000		
36	6,984	15,133	23,816	32,774	42,211	52,382	63,211	73,669	81,885	88,236	100,000			
41	8,762	18,096	27,727	37,873	48,807	60,449	71,692	80,525	87,353	100,000				
46	10,230	20,786	31,907	43,890	56,651	68,972	78,654	86,137	100,000					
51	11,760	24,149	37,497	51,711	65,435	76,222	84,557	100,000						
56	14,041	29,167	45,276	60,828	73,053	82,498	100,000							
61	17,596	36,336	54,427	68,650	79,637	100,000								

It is by this table that the reserve made in the annual balance-sheets, as well as the purchase price of surrendered policies, and the advances on policies, have been computed ever since the establishment of the Society, and will continue to be computed, until the experience of the Society requires an alteration of the table of mortality in use.

The guarantee fund comprises, according to the former balance-sheets—

	£.
The residue of the surplus of 1849	16,557
The surplus of 1850	30,389
„ 1851	46,819
„ 1852	43,021
„ 1853	39,110
Total	£175,896

In the course of 1854 the surplus of 1849-50 is divided among the assured who have paid premiums in 1849. It consists of—

	£.
The residue of surplus of 1849	16,557
Part of the surplus of 1850, corresponding to the premiums paid in 1849, which are due in 1850 (£59,167)	14,505
Total	£31,062

The premiums for whole life assurances and survivorships paid in 1849 being £124,250, the surplus of £31,062 gives a dividend of 25 per cent. This dividend is made in the course of 1854—on all existing policies, by way of reduction of premiums; and on all policies cancelled by death or surrender, by payment in cash on bonds, which are issued at the extinction of the policies.

The investments on loans and mortgages are—

	£.
882,789 first mortgages on land, of at least double the value.	
26,996 „ „ house property, of at least double the value, and insured against fire.	
20,665 in bonds of public Loan Societies, based on land securities.	
14,815 in bonds of public corporations, whose management is under the control of the Government.	
15,979 on mortgage of stocks.	

£961,244 . Total.

Hamburg.—Janus Life and Annuity Insurance Company. Balance sheet for the year 1853.

I.—Life Insurance.

Proposals made in 1853, 814	£118,258*	
„ accepted, 661	87,831	
Cancelled, died, surrendered, &c., in 1853	31,589	
Increase in 1853	56,242	
Policies in force 31st December, 1853—	Persons.	
On single lives	3,238	£418,679
„ joint lives	132	13,076
	3,370	£431,755
Premiums		£14,920
Interest		842
Brought forward from 1852		15,181
		£30,943
39 claims, exclusive of £600 reassured		5,049
Dividend for the year 1850		523
For reinsurance and policies purchased		589
Commission		814
Expenses of management		1,830
Stamps, and loss by exchange		109
		8,914
Balance carried forward		£22,029

II.—Annuities.

	Persons.	
Accepted in 1853	12	£103
Died	2	28
	10	75
Which have been deferred	1	6
	11	£81
Deferred annuities	10	£148
Cancelled, died, &c.	7	102
	3	£46
In force, 31st December, 1853—		
Annuities	62	£648
Deferred annuities	51	729
Persons	113	£1,377
Receipt of purchase-money		£1,086
„ premiums		255
„ interest		193
Balance of 1852		5,633
		£7,167
Annuities paid		595
Dividend of 1850		27
Agents' commission		51
Expenses of management		155
Loss by exchange		9
Policies purchased		35
		872
Balance to be brought over		£6,295

The dividend granted to the insured for 1851 is 10 per cent. of the net premiums, and to the shareholders £1. 17s. 6d. per share.

* 13½ Banco marcs = £1.

Balance-sheet of the Hamburg Fire Assurance Company of 1843 for the Year 1853.

Premiums—		£.
For the assurances in force, 31 Dec., 1852, viz.	£1,729,091	7,567*
New assurances	2,247,351	9,581
		<hr/>
Deducted for brokerage, commission, &c. £510	3,976,442	17,148
Expired before 31 Dec., 1853	2,285,566	
		<hr/>
In force 1 January, 1854	1,690,876	
Premiums for this amount carried forward		7,793
		<hr/>
Net premiums		£9,355
Interest	£4,297	
To shareholders	3,000	
		<hr/>
Surplus of interest		1,297
		<hr/>
		£10,652
For claims paid	1,348	
Expenses of management	798	
Expenses of printing, &c.	102	
Commission of dividend, gratuities, &c.	304	
		<hr/>
		2,552
		<hr/>
Net profit		£8,100
To be divided, 50 per cent.		£4,050
To be reserved	4,050	
Reserved fund, 31 Dec., 1852	33,600	
		<hr/>
		37,650
Capital 2,000 shares, £37. 10s., wholly paid up		75,000
		<hr/>
		£112,650
Premiums reserved for current risks, £7,793		

Assicurazioni Generali in Trieste.—*Extract from the Report and Balance-sheet for the Year 1853.*—The claims paid in the year 1853 amount to £131,300* sterling, published by the papers. The business of that year left nevertheless a net profit of £21,723, after augmenting the fund of reserved premiums by £23,024. From the net profit of £21,723, £6,369 have been added to the fund of reserved profits, and £15,354 are to be divided among the shareholders.

The total amount of the reserved fund now amounts to £459,433, viz., £403,589 for reserved premiums, £55,844 for reserved profits. The reserved premiums include £134,822 for the liability to pay £15,711 annuities; and £30,882 for the liability to pay for deferred life assurances, viz., sums, £75,937—annuities, £581. These deferred assurances yield a yearly income in premiums of £1,604.

The profit realized in this year is consequent on the great number of risks assured, of their distribution in different branches, and of the amount secured by frequent reassurances, but not on the increase of the premiums. The divisible profit of £9,369 of the Balance-sheet (A) scarcely exceeds 4 per cent. of the premiums received in this branch. A reduction of the premium of $\frac{1}{8}$ per mille only at an average per year would even have caused a loss; for the assurances effected in 1853, although only stated to

* 13½ Banco marcs = £1.

† 12 Florins = £1.

be £36,000,000, would exceed the sum of £66,000,000, if the sums assured for more than one year were comprised in each year separately, as is done by other Societies.

In the course of 22 years from the commencement of the Society the claims have been £1,276,900; and the amount paid in 1853 exceeds that of six of the earlier years.

With respect to life assurance, those circumstances fatal to the development of this branch in the Austrian empire enumerated in our report of last year still exist; but it is to be hoped that the settlement of financial matters, the cessation of the dearth, and the consequent improvement in the moral and social condition of the population, will induce the public to avail themselves of life assurance on a larger scale than before, as it is in England, France, and the northern parts of Germany.

In the Tontine branch the sums deposited in the first three months of 1854 exceed those of the whole year 1853; the status was, on the 1st July—Tontine ending 31 December, 1862—1,183 subscriptions, in 2,606 shares, for the sum of £28,403, of which £7,547 is paid up. Tontine ending 31 December, 1870—524 subscriptions, in 1,612 shares, for the sum of £13,869, of which £2,025 is paid up.

The directors express a desire for the increase of assurances of this description, and their wish to popularize them in Austria.

(A) *Balance-sheet for 1853 (exclusive of Life Assurance).*

Brought from 1852—	£.
For premiums of fire insurance	146,295
„ claims unsettled	7,500
„ reinsurance of current risks	12,375
Premiums in 1853 for sums assured (£36,083,900)	211,123
Interest for this branch (£17,030)	4,782
	£.
	382,075
For 4,576 claims paid	104,656
Brokerage, agents' commission, Ristorno premium of reinsurance	68,997
Expenses of management	7,000
Interest to shareholders	2,000
To be carried forward—	
For premiums of fire insurance	161,433
Claims unsettled	8,333
Reinsurance of current risks	13,333
	£.
	365,752
Profit	£16,323
To the directors and auditors, 18 per cent.	2,939
	£13,384
Net profit	4,015
To be reserved, 30 per cent.	
To be divided	£9,369
<i>Reserved Fund of Profits.</i>	
	£.
Balance 31 December, 1852	33,058
Brought from 1853	4,015
Interest	645
	£37,718
Balance, 31 December, 1853	

Balance-sheet of Life Assurances in 1853—Payable at Death.

Brought forward for liabilities	£.	62,434
Interest		2,497
Assurance premiums of sums, £527,657; annuities, £10,400		29,049
		<hr/>
		93,980
Claims, commission, brokerage, expenses	£19,798	
Carried forward for liabilities	70,197	
		<hr/>
		89,995
		<hr/>
Profit		£3,985
To the directors and auditors, 18 per cent.		717
		<hr/>
Net profit		£3,268
To be reserved		980
		<hr/>
To be divided		£2,288
		<hr/>
<i>Fund of Reserved Profits.</i>		
Balance, 31 December, 1852		10,067
Brought forward, 1853		980
		<hr/>
Balance, 31 December, 1853		£11,047

Balance-sheet of Annuities terminated in 1853.

Class 1. For £1,280 in favour of persons who died 1852-3, payments were made, including interest	£.	16,281
„ 2. For £157 in favour of persons who died 1852-3, payments were made, including interest		1,761
„ 3. For £354 in favour of persons living 31 December, 1853, payments were made, including interest	3,209	£.
		<hr/>
		21,251
Annuities paid to the members of Class 1	11,145	
„ „ „ 2	1,908	
„ „ „ 3	3,563	
Reserved fund for annuities to be paid to the members of Class 3, according to the tables	2,206	
		<hr/>
		18,824
		<hr/>
Net profit		2,429
To be reserved		729
		<hr/>
To be divided		£1,700
		<hr/>
<i>Fund of Reserved Profits.</i>		
		£.
Balance, 31 December, 1852		5,704
Brought forward, 1853		729
		<hr/>
Balance, 31 December, 1853		£6,433

JAMAICA.—*Extract from the Report of the Directors of the Jamaica Mutual Life Assurance Society, to 30th April, 1854.*—The directors have to submit to the members of the Society their report on the business of the Institution for the year ending on the 4th January last, as also for the further period to the 30th April, with its exact position at each of such dates; it having been considered more convenient, and more acceptable to the members, to take in, by adjournment of the usual annual general meeting in the month of March, the further period required to complete the first ten years' operations of the Society, which commenced its career on the 1st May, 1844; and the more so, as their report in respect to the appropriation of the cash bonus, recently declared, could have been only of a

very incomplete character had the supplemental account been made up, as on former occasions, only to the 25th January preceding.

In respect to such bonus—amounting, after deduction of certain policies discontinued in the interim, to £8,312. 4s. 3d. as a payment in hand—it will be in the recollection of the members, that a free option was given to each participant between the three different forms of a money payment, an equivalent reduction of the future premiums, and a reversionary bonus; in the event of the first, an order for a moiety embodying interest at 3 per cent. being given on the Island Treasury, and payable on the 25th July next. And the directors have now to report that the sum of £8,312. 4s. 3d. in question, under the option given, has been discharged as follows:—

	£.	s.	d.
By cash payments (as above stated) amounting to	5,284	12	6
By reduction of future premiums	363	3	11
By additions to policies, and supplemental policies, amounting to £4,711. 18s. 3d.; their present value	2,664	8	10
	£8,312	4	3

while the sum of £17,717. 9s. 1d., previously standing on the books of the Society as “gross surplus on the 4th January, 1852,” has been disposed of in the following manner:—

	£.	s.	d.
Values of policies, 4th January, 1852	5,219	2	3
Guarantee fund	4,186	2	7
Dividend surplus	8,312	4	3
	£17,717	9	1

the last item having been closed in the books of the Society; and, under the modification of the new premium scale (diminished below, and increased above, the age of 45), a further sum of £402. 5s. 2d., arising on the excess of payments since the 4th January, 1852, has also been returned to the members, with the exception of £38. 12s. 11d., to be available to them in reduction of premiums falling due in July next.

The entire settlement has been effected, it will be seen, with but little inroad on the vested capital, under the eventual mode of liquidation; while it is satisfactory to state, that the premiums and semi-annual interest due in July, amounting to £3,000, will prevent any further encroachment on the fund in the Island Treasury, in reference to the obligations of the Society presently becoming due.

In the business of the Institution between the meeting in September last and the promulgation of the Government Actuary's report, but little addition was made to the assurances of the Society, although during such half year the directors have only one further death to notice, involving a call of £500, to be provided for in July; but subsequently to the receipt of the report in question, the directors have to announce an important accession to the business of the Society, by the acceptance of 22 proposals, duly carried out, involving assurances to the extent of £10,450; while 4 proposals, amounting to £1,250, have been declined; and 5, involving assurances for £2,600, are under consideration—the existing assurances of the Society, including the recent additions to policies and free policies granted, amounting, on the 30th April last, to £100,282. 1s. 9d., and the income of the

Society, on premiums alone, to £5,300 per annum, while only one term policy for £500 has been discontinued; and as regards the mortality over the last six months, the directors have only to notice one death, involving a call of £379, and falling due in October next.

Statement of Accounts (No. 1) on 4th January, 1854.

<i>Dr.</i>	£.	s.	d.	
Outstanding claims, due or not due	1,574	11	4	
Receipts towards contingent reversionary annuity	218	16	0	
Gross surplus, 1853	46	4	0	
Assurance premiums, after deducting those appertaining to the ensuing year	4,698	7	0	
Interest on investments	1,528	1	11	
Assurance premiums, 1854	275	8	2	
Interest account	14	11	3	
Gross surplus arising on the year 1852	4,383	17	2	
Gross surplus arising between the 1st May, 1844, and 4th January, 1852, and which formed the sum for investigation, valuation, and subsequent reference of the whole to the Government Actuary	17,717	9	1	
	£30,457	5	11	
<i>Cr.</i>	£.	s.	d.	
Island Treasury, due as of the 25th July last	25,500	0	0	
Interest thereon, since accrued	676	18	5	
Drafts on Island Treasury bearing interest	458	9	11	
Loans upon policies ditto	501	13	5	
Colonial Bank	95	1	0	
Office furniture	86	7	0	
Policies emerged	2,300	0	0	
Grant to the secretary by general meeting	315	0	0	
Law expenses on the year	11	8	0	
Current expenses on the year, viz.—				
Rent	£20	0	0	
Office servant	8	12	0	
Secretary and accountant	275	0	0	
Medical fees and commission	20	16	0	
Advertising and printing	54	16	0	
Stationery, stamps, and petty disbursements	31	0	2	
Colonial Bank—Bank commission	20	0	0	
	430	4	2	
Fees to directors	67	4	0	
„ auditors	15	0	0	
		512	8	2
	£30,457	5	11	

Statement of Accounts (No. 2) on 4th January, 1854.

<i>Dr.</i>	£.	s.	d.
Outstanding claims (of which £500 due in July next)	1,619	13	8
Receipts on contingent reversionary annuity	218	16	0
Premium account, 1854	275	8	2
Interest ditto, 1854	14	11	3
Gross surplus arising on the year 1852	4,226	7	2
Ditto ditto, 1853	3,246	4	5
Gross surplus to the 4th January, 1852, appropriated as follows—say £17,717. 9s. 1d. To value of policies for the whole term of life, as of the 4th January, 1852, amounting to £80,150;			
Say, then present value of assurances	£42,735	14	6
Ditto ditto of future premiums thereon, after throwing off 5 per cent. towards future expenses	37,516	12	3
Value of policies as the difference		5,219	2 3
Carried forward		14,820	2 11

	£.	s.	d.
Brought forward	14,820	2	11
To assurance guarantee fund for one third of £12,498. 6s. 10d., over and above the value of the policies	£4,166	2	3
Add on policies since abandoned	20	0	4
	4,186	2	7
To dividend surplus for distribution among members having paid not less than one full year's premium, as of the 4th January, 1852	8,312	4	3
	£27,318	9	9
<i>Cr.</i>			
Island Treasury	25,500	0	0
Interest accrued	676	18	5
Drafts on Island Treasury	458	9	11
Loans upon policies	501	13	5
Colonial Bank	95	1	0
Office furniture	86	7	0
	£27,318	9	9

Contracts—say, assurances pending 4th January, 1854, 167 in number, on 147 lives, amounting to £87,000, £1,800 of which for terms; and a contract for a contingent reversionary annuity of £200.

Continuation Account, to the 30th April, 1854.

<i>Dr.</i>	£.	s.	d.
Outstanding claims, of which £500 due in July, and £379. 16s. 5d. in October next	1,038	2	0
Receipt towards contingent reversionary annuity	248	16	0
Cheques remaining to be granted to close the dividend surplus of £8,312. 4s. 3d., as of 4th January, 1852, or unrepresented	305	7	9
Bills on Island Treasury, payable 25th July next, being the amount granted in such form in part of the preceding	2,047	4	7
Assurance premiums, 1854 to date	3,147	14	5
Interest on investments	485	2	10
Assurance premiums paid in 1852 and 1853—say £402. 5s. 2d., less returned £363. 12s. 3d., leaving returnable in July	38	12	11
Fund for the discharge of future premiums, in whole or in part, in the case of single premiums, or diminution of previous annual premiums	2,690	17	6
Gross surplus arising on the first two years (1852 and 1853) of the triennium ending on the 4th January next	7,070	6	5
Value of policies as of the 4th January, 1852 (to merge in the <i>then</i> present value of the Society's contracts, as of the 4th January, 1855)	5,219	2	3
Guarantee fund in respect of the preceding—say	4,186	2	7
	£26,477	9	3
<i>Cr.</i>			
Island Treasury	24,500	0	0
Three months' interest accrued to 25th April	382	10	0
Drafts upon same	415	14	0
Loans upon policies, bearing interest	292	9	6
Colonial Bank, at call	134	2	6
Outstanding premium	10	10	2
Purchase of policies	58	5	8
Office furniture	86	7	0
Charge upon premiums, see <i>per contra</i>	379	16	5
Directors' fees	21	10	6
Current expenses	196	3	6
	£26,477	9	3

Contracts of assurance pending 30th April, 1854, 202 in number, on 158 lives, amounting to £100,282. 1s. 9d.; and further, a contract for a contingent reversionary annuity of £200.

Mortality Experience—1st May, 1844, to 4th January, 1854 (in round numbers, 10 years).

Years.	Lives.	Deaths.	Assurances.	Calls.
			£.	£.
1844	50	1	30,959	500
1845	79	0	50,750	"
1846	124	1	80,800	1,000
1847	141	1	86,500	1,000
1848	134	2	71,250	1,500
1849	117	1	70,700	500
1850	126	7	78,010	5,100
1851	137	2	85,460	1,100
1852	151	1	89,160	1,000
1853	154	4	91,060	2,300
	1,213 ^a	20 ^b	£734,640 ^c	£14,000 ^d
	Average Mortality, 1·65 per cent., or 1 in 61.		Average Calls, 1·91 per cent.	

(a) Average age, about 40 years.

(b) Attributable to Asiatic cholera, 7—in 1850-51; or seven twentieths of the whole.

(c) Average risk *per capita*, as computed, £606.

(d) Attributable to Asiatic cholera, £5,100; or more than five fourteenths of the whole.

Average aggregate annual calls, £1,400; average annual calls *per capita*, as experienced, £700.

The deaths occurring in 1,213 observations as above—the lives averaging the age of 40—should have been

According to the table of the Society ($1,213 \times \cdot 04$) 48

" " Northampton Table ($\times \cdot 02$) 24

Against deaths actually experienced..... 20

But the average calls *per capita*, as experienced, having been £700, in lieu of £606 as computed, we have, on the one hand, 24 calls by the *Northampton Table*, as computed at £606.....£14,544

And, on the other, 20 calls averaging £700 as experienced 14,000

Leaving, on *such* a comparison, a difference of 4 lives in

favour of the Society, and of money value £544

The calls in the preceding table appear in each year in which the deaths respectively occurred, without reference to the maturity of the money payments. The lives, with little variation, have been treated as having been on risk from the *commencement* of the several years, although some entered only *during* such years respectively; but the difference arising on a more rigid adjustment would be unimportant.

As strongly contrasted with the very limited mortality experienced by the Society over the first decade of its career, under the age of 50, its experience so far, at the more advanced ages, evinces the utter inadequacy of the corresponding premiums as diminished by Mr. Woolhouse in 1849, and only recently augmented. It should also be observed that, as in the mother country (as noticed by Mr. Milne), the larger average risks have attached to the higher ages, although these last have been numerically few: thus, on the 30th April, 1854, only 9 lives appear on the register above the age of 55, but averaging £756, and only 4 above that of 60, but averaging £825; the average risk over the entire number of 158 lives then under assurance

being £635, and their combined ages presenting an average or mean age of 41·70. The minimum and the maximum risk existing on any one life are respectively £100 and £1,324, any recent enhancement included; the highest risk undertaken, according to the regulations of the Society, being £1,600.

The ages at death, and the disorders, of the 20 deceased members, were as follow:—

Diseases.	Deaths.	Ages.
Dysentery	2	27, 34
Gout and other causes	1	50
Decline	1	38
Organic disease in the intestines	1	48
Suffocation following on the rupture } of a blood vessel	2	55, 37
Apoplexy	1	45
Asiatic cholera	7	38, 41, 43, 48, 51, 58, 59
Fever of the country	2	37, 53
Disease of the heart	1	44
Paralysis	1	62
After the amputation of a limb, con- } sequent on a fall from a gig }	1	47
Total	20	

And here the question naturally presents itself—What would probably have been the mortality before us but for the *exceptional* feature of Asiatic cholera, unknown in the island of Jamaica until the autumn of 1850; admitting, as applied to the seven decrements it produced, that disease, to a certain extent, might have developed itself in some other form, and possibly also *in other subjects*, if not in the corresponding year, in the two or three years (1851 to 1853) which immediately succeeded? To such a question we should be disposed to answer—from a personal knowledge of the individuals themselves, and with due regard to other circumstances which would legitimately enter into the consideration—that *four* out of the seven decrements so occasioned might reasonably be deducted on such a score from the 20 deaths experienced on the whole; leaving attributable to ordinary causes of death, *on such an assumption*, 16 in $(1213 + 4 \times 3)$ 1225; or 1·31 per cent., against 1·30 per cent., which, as of the age of 40, the Carlisle Table would have presented.

While the results here given, considered under any aspect of the case, furnish no reliable criterion for the government of the future, looking at the limited time and numbers involved, and evidence merely the important difference between acclimated and unacclimated lives, and the large value of selection in the infancy of a Society and in a community in which health and longevity so greatly depend on the habits and occupation, temperament and disposition, of the individual; it must, nevertheless, be conceded, that no such results, however considered, could have been anticipated ten years ago, as those which were to characterize the experience of a Society in the island of Jamaica over the first ten years of its career.

With respect to the treatment here of Asiatic cholera, as exceptional, and as a feature *per se*—as irreferable to any law of mortality thus far known, as setting all anticipatory computation at defiance, and as a disease

altogether *sui generis*—in no country can it be treated otherwise. Over the last three years (and embracing one death from cholera), it will be seen that the mortality has been $\frac{7}{442} = 1.58$ per cent.; over the last six months the mortality having been 1 in 159.

CORRESPONDENCE.

SUGGESTIONS FOR A BETTER MEANS OF MAKING PROVISION FOR THE WIVES AND FAMILIES OF PERSONS ENGAGED IN THE BUSINESS OF LIFE ASSURANCE.

To the Editor of the Assurance Magazine.

SIR,—As the accredited organ of the assurance interest, I feel sure that you will open the pages of your *Magazine*, and also lend the aid of your own pen, to call the attention of the directors of Assurance Companies to a question of no mean importance to those in their employment. I refer to the question of allowing to those engaged in the business of life assurance the same advantage as is enjoyed, I believe, by persons engaged in all kinds of trades—I mean, that of obtaining the article dealt in by their employers at the cost price.

My attention has been more particularly called to this subject lately (though it has always been one the equity of which I have never questioned, and one which I have thought a good deal about) by reading the last report of the National Provincial Bank of England, the *Twenty-first Annual Report*, and from which I extract the following :—

“It will be in the recollection of the proprietors that, on the occasion of their last annual meeting, it was intimated that a strong desire had been expressed among the officers of the Company for the formation of a Provident Society for their mutual benefit—embracing also, if possible, the principle of a guarantee fund. The precise nature of the scheme it was then left for the directors to consider and determine. At the outset of their deliberations the directors found that the guarantee scheme was objected to by a large number of the officers, and it was therefore abandoned.

“The other objects aimed at are—*First*, a provision for the widows and children of officers at their death; and, *secondly*, a superannuation allowance for the officers themselves.

“To effect the first and most pressing of these objects, the directors recommended to the proprietors that the officers and clerks should be assisted in effecting insurances upon their lives to the following extent, by the Bank paying for them one half of the yearly premium—viz. :

“1st. Managers of branches and agencies to insure for not less than £500 and not more than £1,000.

“2nd. Junior officers and clerks to take out policies for sums not under £250 and not exceeding £500.

“With respect to the question as to a superannuation allowance, the directors intend to postpone the consideration of it, in the hope that at a future period they will be able to deal with it in a more satisfactory manner than they could do at the present moment.